NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION

LAKE TROPHIC DATA

MORPHOMETRIC:

LAKE	Gould Pond	LAKE AREA (HA)	19.50
TOWN	Hillsborough	MAXIMUM DEPTH (M)	11.0
COUNTY	Hillsborough	MEAN DEPTH (M)	5.7
RIVER BASIN	Merrimack	VOLUME (M^3)	1,113,000
LATITUDE	43° 09'N	MUD SURFACE AREA (HA)	19.54
LONGITUDE	71° 53'W	RELATIVE DEPTH	2.2
ELEVATION (FT)	611	SHORE CONFIGURATION	1.21
SHORE LENGTH (M)	1900	AREAL WATER LOAD (M/YR)	67.41
WATERSHED AREA (HA)	2590.0	FLUSHING RATE (YR^{-1})	11.8
% WATERSHED PONDED	0%	PHOSPHORUS RETENTION COEFF.	0.30

BIOLOGICAL: DATE	21 FEB 1986	2 AUG 1985
DOM. PHYTOPLANKTON (% total) 1	Asterionella (85%)	Tabellaria (45%)
2		Synura (30%)
NUMBER OF ALGAL GENERA	4	15
SPECIES DIVERSITY		2.18
CHLOROPHYLL a (µg/L)		6.71
DOM. ZOOPLANKTON (% total) 1	sparse - no dominant	Nauplii larvae (35%)
2		Kellicottia (20%)
ROTIFERS/LITER	11	96
MICROCRUSTACEA/LITER	15	118
TOTAL ZOOPLANK. CNTS (cells/L)	26	214
VASCULAR PLANT ABUNDANCE		Common
DOMINANT VASCULAR PLANTS 1		Nymphaea
2		Brasenia
3		Utricularia
SECCHI DISK TRANSPARENCY (M)		3.5
BOTTOM DISS. OXYGEN (mg/L)	1.5	0.3
SEDIMENT: % ORGANIC MATTER		

LAKE TYPE: A natural pond.

SUMMER THERMAL STRATIFICATION: YES X NO ____ WEAK ____

IF YES, VOLUME OF HYPOLIMNION 218,000 (m^3) THERMOCLINE DEPTH 3.7 (m)

CHEMICAL: (mg/L unless indicated otherwise) LAKE: Gould Pond

	WINTER		SUMMER		
DATE	21 FEB 1986		2 AUG 1985		
DEPTH (M)	3.0	6.0	1.5	4.0	8.5
pH (UNITS)	6.1	6.1	6.9	6.5	6.1
ALKALINITY (I. P.)	2.4	2.7	4.4	4.2	7.4
ALKALINITY (F.E.P.)	3.8	4.0	5.9	5.7	8.9
NITRITE+NITRATE NITROGEN			< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN			0.50		0.58
TOTAL PHOSPHORUS	0.015	0.020	0.018	0.018	0.027
SPEC. CONDUCT. (µMhos/cm)	28.6	30.8	28.4	28.5	36.7
APPARENT COLOR (UNITS)	35	40	35	35	* ~ 55
TRUE COLOR (440 nm)(UNITS)	NR	NR	38	39	76
MAGNESIUM			0.42		
CALCIUM			2.2		
SODIUM			3		
POTASSIUM			0.7		
CHLORIDE			< 2		2
TN : TP			28		21
INORG-N : INORG-P					
[Mg+Ca] : [Na+K]			0.71		
CALCITE SATURATION INDEX			3.4		

* = NOT DEFENSIBLE NR = NO RESULT

TROPHIC CLASSIFICATION: 1985

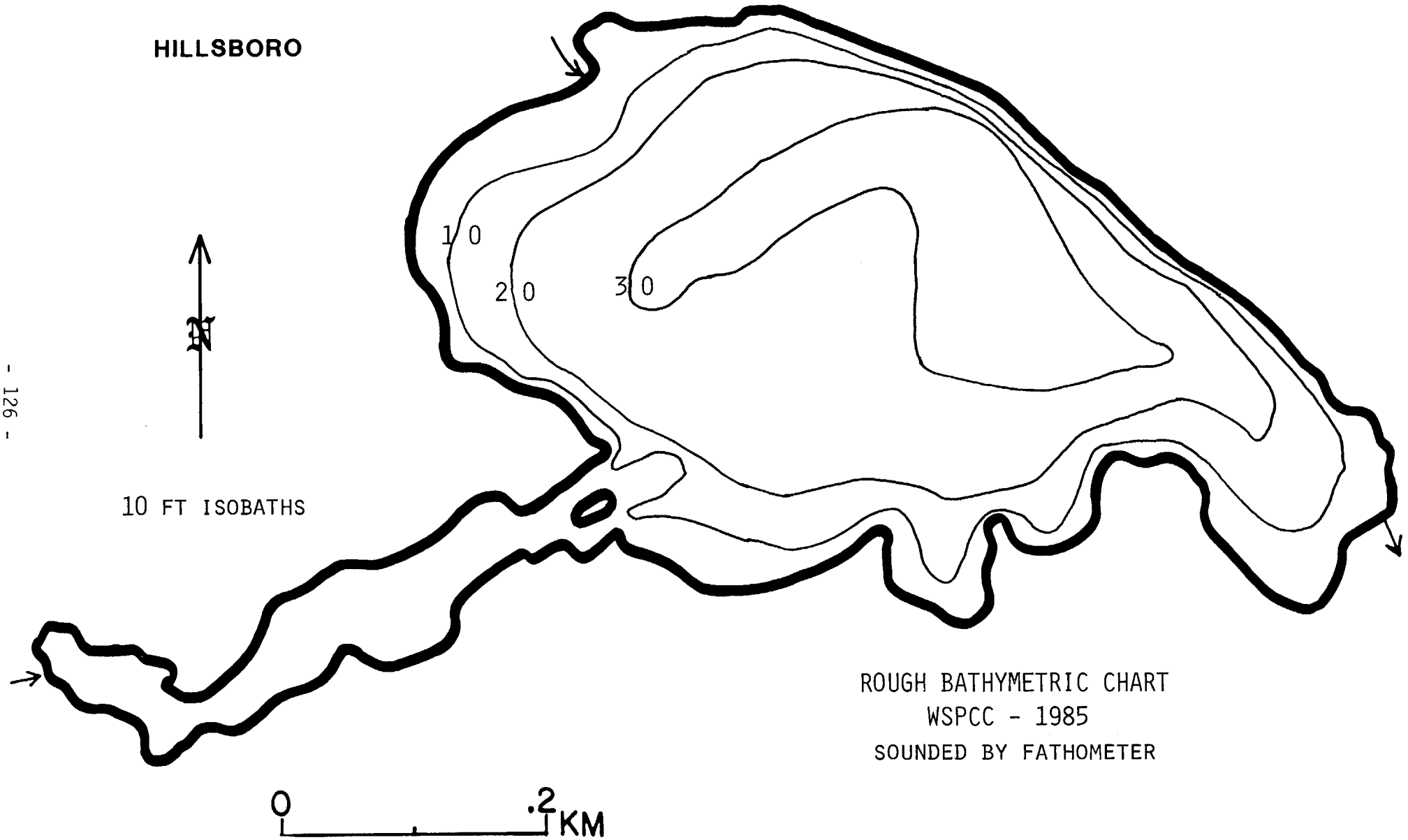
	D.O.	S.D.	PLANT ABUND.	CHL a	TOTAL PTS.	TROPHIC CLASS.
CLASSIFICATION POINTS:	6	2	2	1	11	Eutro.

COMMENTS:

1. This pond is locally known as Emerald Lake as a result of a new development (Emerald Shores) in the early 1970's.
2. Motor boats shall not exceed 10 mph.

GOULD POND

HILLSBORO



ROUGH BATHYMETRIC CHART
WSPCC - 1985
SOUNDED BY FATHOMETER

FIELD DATA SHEET

WATER BODY Gould Pond TOWN Hillsboro BY WSPCC

DATE COLLECTED 2 August 1985 WEATHER 50% cloud cover

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
DEEP SPOT	0.1	23.3	8.1	97%			
	1.0	22.8	8.1	95%			
	2.0	22.4	8.0	94%			
	3.0	21.8	7.5	86%			
	4.0	14.9	6.4	64%			
	5.0	10.7	3.1	28%			
	6.0	8.2	2.3	20%			
	7.0	6.8	1.2	10%			
	8.0	6.2	0.2	2%			
	9.0	6.0	0.2	2%			
	10.0	5.9	0.2	2%			
	10.5	5.9	0.3	2%			

SECCHI DISK (M) 3.5

BOTTOM DEPTH (M) 10.9

TIME 1315 hrs.

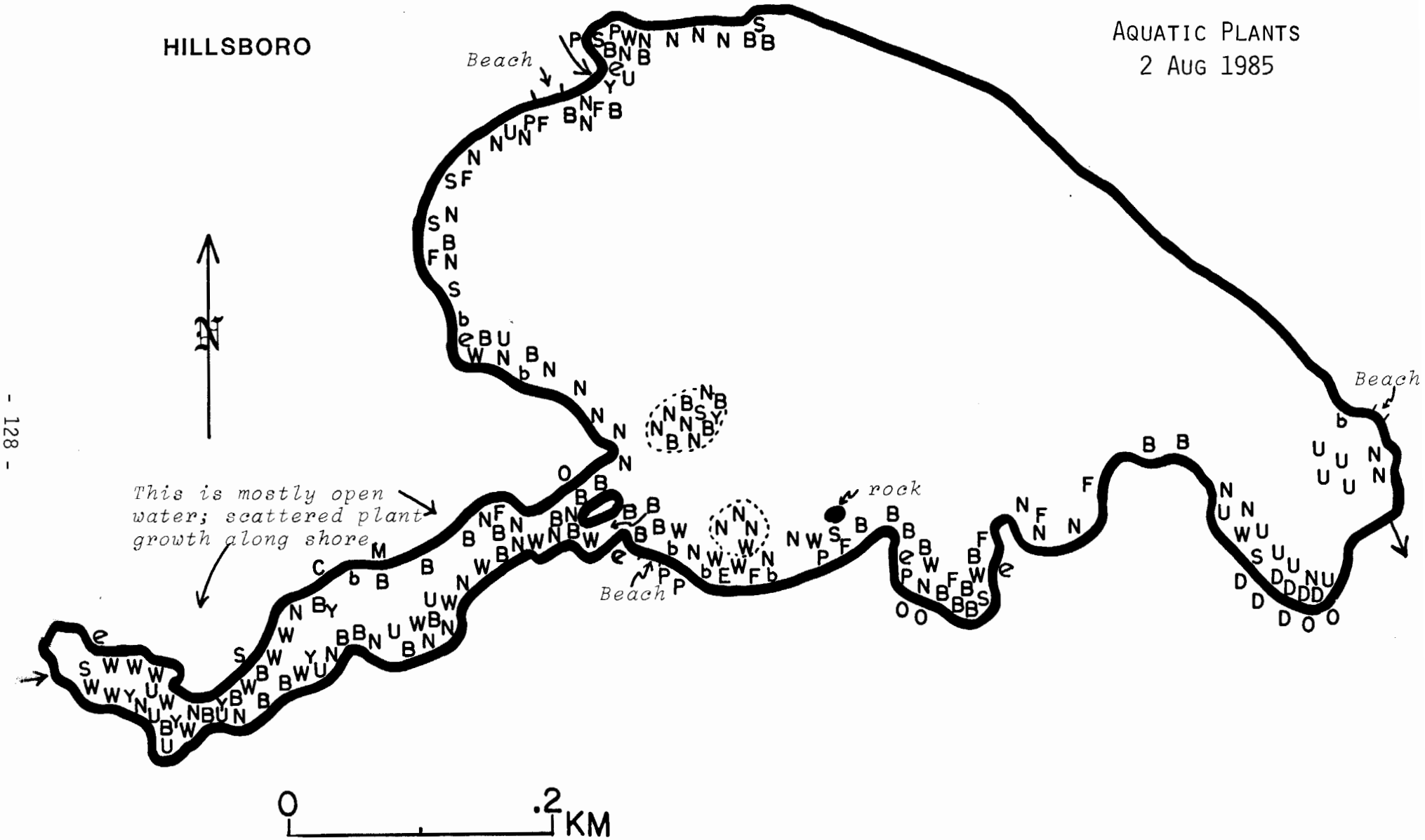
COMMENTS:

* Dissolved oxygen values in mg/L

GOULD POND

HILLSBORO

AQUATIC PLANTS
2 AUG 1985



AQUATIC PLANT SURVEY

LAKE Gould Pond TOWN Hillsboro DATE 2 AUG 85 BY WSPCC

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
N	Nymphaea	White water lily	Common
B	Brasenia schreberi	Water shield	Common
P	Pontederia cordata	Pickerelweed	Scattered
F	Nymphoides cordatum	Floating heart	Scattered
e	Eleocharis	Spike rush	Scattered
U	Utricularia	Bladderwort	Common
S	Sparganium	Bur reed	Scattered
b	Scirpus validus	Softstem bulrush	Scattered
W	Potamogeton natans	Floating-leaf pondweed	Common
O	Cephalanthus occidentalis	Buttonbush	Common
M	Myrica gale	Sweet gale	Scattered
C	Carex	Sedge	Sparse
Y	Nuphar	Yellow water lily	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse
D	Decodon verticillatus	Swamp loosestrife	Sparse

OVERALL ABUNDANCE Common

GENERAL OBSERVATIONS:

1. Except for bottom growth, plants were virtually absent from the northeastern shoreline. They were abundant elsewhere, for an overall rating of common.
2. Mats of bladderwort were visible on the bottom near the outlet. They may be over much of the bottom, but were not visible because of the colored water.
3. Sponges and Pectinatella were observed.
4. The inlet arm at the southeast end was mostly open water; but because of its narrowness and the intermix of several plant types, it appears from the map to be clogged with plants. The plant growth was actually scattered growths along the shore.